

CLAIMS

What is claimed is:

1. A method for fabricating an interposer, comprising:
providing at least one interposer; and
fabricating at least one fence configured for placement on a surface of said at least one interposer,
said at least one fence including a receptacle configured to receive at least one
semiconductor device so as to align said discrete conductive elements protruding
therefrom with corresponding contact pads at said surface of said at least one interposer,
said fabricating including:
at least partially, selectively consolidating unconsolidated material to form a first
portion of said at least one fence; and
repeating said at least partially consolidating at least once to form at least one
additional portion of said at least one fence.
2. The method of claim 1, further comprising securing other discrete conductive
elements to contact pads at an opposite surface of said interposer and in communication with said
contact pads at said surface.
3. The method of claim 2, wherein said securing conductive structures comprises
disposing solder bumps on said other contact pads.
4. The method of claim 2, wherein said securing conductive structures comprises
securing at least one of conductive balls, conductive bumps, conductive pillars, and Z-axis
adhesive film to said other contact pads.

5. The method of claim 1, further comprising:
placing or forming a protective layer over at least a portion of at least one of said top surface and said surface and an opposite surface of said at least one interposer, with contact pads of said at least one interposer being exposed through said protective layer.
6. The method of claim 1, wherein said fabricating said at least one fence includes disposing a portion of said at least one fence over at least one peripheral edge of said at least one interposer.
7. The method of claim 1, wherein said fabricating said at least one fence comprises fabricating at least one fence having a receptacle configured to progressively guide said at least one semiconductor device into alignment with said at least one interposer upon assembly of said at least one semiconductor device and said at least one interposer.
8. The method of claim 1, wherein said fabricating said at least one fence comprises fabricating said at least one fence on said surface of said at least one interposer.
9. The method of claim 8, wherein said fabricating said at least one fence comprises fabricating said at least one fence from a photopolymer.
10. The method of claim 1, wherein said fabricating comprises:
placing said at least one interposer in a first orientation;
determining an envelope defining limits of inner and outer surfaces of said at least one fence; and
forming at least a portion of said at least one fence as a series of superimposed, contiguous, mutually adhered layers of material commencing at a defined limit of said at least one fence.

11. The method of claim 10, further comprising:
inverting said at least one interposer to a second orientation; and
forming additional portions of said at least one fence as series of superimposed, contiguous,
mutually adhered layers of material.
12. The method of claim 11, wherein said forming additional portions comprises
adhering said additional portions to said at least one fence.
13. The method of claim 1, wherein said at least partially consolidating is effected by
directing a focused beam of radiation onto a surface of said selected regions of said layer.
14. The method of claim 8, wherein said fabricating said at least one fence comprises
molding said at least one fence onto said at least one interposer.
15. The method of claim 1, wherein said at least one fence comprises at least one
prefabricated fence and further comprising securing said at least one prefabricated fence to said
at least one interposer.
16. The method of claim 1, wherein said fabricating said at least one fence comprises
forming a plurality of superimposed, contiguous, mutually adhered layers comprising at least
partially consolidated material.
17. The method of claim 1, wherein said providing at least one interposer comprises
providing a substrate including a plurality of smaller interposers thereon.
18. The method of claim 1, wherein said providing at least one interposer comprises
providing a plurality of individual interposers.

19. The method of claim 1, wherein said providing at least one interposer comprises providing a single interposer.

20. A method for fabricating an interposer, comprising:
providing at least one interposer; and
fabricating at least one fence configured for placement on a surface of said at least one interposer,
said at least one fence including a receptacle configured to receive at least one
semiconductor device so as to align said discrete conductive elements protruding
therefrom with corresponding contact pads at said surface of said at least one interposer,
said fabricating including:
placing said at least one interposer in a first orientation;
determining an envelope defining limits of inner and outer surfaces of said at least
one fence; and
forming at least a portion of said at least one fence as a series of superimposed,
contiguous, mutually adhered layers of material commencing at a defined
limit of said at least one fence.

21. The method of claim 20, wherein said fabricating further comprises:
inverting said at least one interposer to a second orientation; and
forming additional portions of said at least one fence as series of superimposed, contiguous,
mutually adhered layers of material.

22. The method of claim 21, wherein said forming additional portions comprises
adhering said additional portions to said at least one fence.

23. The method of claim 20, wherein said fabricating said at least one fence includes
disposing a portion of said at least one fence over at least one peripheral edge of said at least one
interposer.

24. The method of claim 20, wherein said fabricating said at least one fence comprises fabricating at least one fence having a receptacle configured to progressively guide said at least one semiconductor device into alignment with said at least one interposer upon assembly of said at least one semiconductor device and said at least one interposer.

25. The method of claim 20, wherein said at least partially consolidating is effected by directing a focused beam of radiation onto a surface of said selected regions of said layer.

26. A method for fabricating an interposer, comprising:
providing at least one interposer; and
fabricating at least one fence configured for placement on a surface of said at least one interposer, said at least one fence including a receptacle configured to receive at least one semiconductor device so as to align said discrete conductive elements protruding therefrom with corresponding contact pads at said surface of said at least one interposer, said fabricating including:

directing a focused beam of radiation onto a surface of selected regions of unconsolidated material to at least partially consolidate material in said selected regions so as to form a first portion of said at least one fence; and
repeating said at least partially consolidating at least once to form at least one additional portion of said at least one fence.

27. The method of claim 26, wherein said fabricating said at least one fence includes disposing a portion of said at least one fence over at least one peripheral edge of said at least one interposer.

28. The method of claim 26, wherein said fabricating said at least one fence comprises fabricating at least one fence having a receptacle configured to progressively guide said at least one semiconductor device into alignment with said at least one interposer upon assembly of said at least one semiconductor device and said at least one interposer.

29. The method of claim 26, wherein said fabricating said at least one fence comprises forming a plurality of superimposed, contiguous, mutually adhered layers comprising at least partially consolidated material.